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PATENT APPLICATION

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

HAJIME YAMAMOTO, et al.

Application No.: 09/132,746

Filed: August 12, 1998

For: FIBROUS MATERIAL,
PRODUCTION PROCESS OF
FIBROUS MATERIAL,
INK-ABSORBING MEMBER,
INK TANK CONTAINER
AND INK CARTRIDGE

) Examiner: J. Guarriello #26

) Group Art Unit: 1771

: February 18, 2003

KW
3-7-03

Commissioner for Patents
Washington, D.C. 20231

RESPONSE TO OFFICE ACTION AND REQUEST FOR INTERVIEW

Sir:

This is in response to the Office Action dated October 17, 2002 (Paper No. 24), the period for further response having been extended one month from January 17, 2003 to Tuesday, February 18, 2003 due to Monday, February 17, 2003 being President's Day and by the accompanying Petition for Extension of Time with fee. Claims 1 to 6, 11

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Commissioner of Patents and Trademarks, Washington, D.C. 20231 on February 18, 2003
(Date of Deposit)

Michael K. O'Neill

Name of Attorney for Applicant

Signature

Date of Signature

to 25, 30 to 39, 42, 47 to 62, 65, 68 to 76 and 79 to 95 are in the application. Of those claims, Claims 1, 20, 31, 54, 84, 85 and 86 are independent. Reconsideration and further examination are respectfully requested.

The specification was objected to for lack of capitalization of the trademarks "Acetylenol E-H" and "Surfonyl 465". Without conceding to the correctness of the objection, Applicants are preparing a substitute specification which will be filed when ready.

Pursuant to the restriction requirement entered April 30, 2000 (as modified in the Office Action dated September 11, 2000), Claims 1 to 6, 11 to 17, 31 to 39, 54 to 62, 79, 82, 83, 87, 90 and 92 have been withdrawn from further consideration on the merits. Pendency of the withdrawn claims have been maintained because the restriction requirement has been properly traversed. The Claims 18 to 25, 30, 42, 49 to 53, 65, 68 to 76, 80, 81, 84 to 86, 88, 89, 91 and 93 to 95 are being examined on the merits.

The Office Action maintains the objections to Claims 18, 42 and 65 under 37 C.F.R. § 1.75(c). The rejection is respectfully traversed, since Claims 18, 42 and 65 are already written in proper dependent form and otherwise comply fully with all statutory requirements for the content of dependent claims. As stated in previous responses, Applicants respectfully decline to write these claims in independent format until an actionable Petition from the restriction requirement has been denied. Since a final rejection has not yet been entered, the time for a Petition has not yet arrived. Therefore, Applicants believe they are entitled to maintain the current format for Claims 18, 42 and 65.

In the Office Action, Claims 18 to 21, 30, 42, 65, 71, 72, 76, 88 and 89 were rejected under 35 U.S.C. § 102(b) over European 771,662 (Yamamoto '662); Claims 18 to

25, 30, 42, 47 to 53, 65, 68 to 76, 80, 81, 84 to 86, 88, 89 and 93 to 95 were rejected under § 103(a) over U.S. Patent 5,784,088 (Ujita '088) in view of U.S. Patent 5,509,140 (Koitabashi '140); Claims 22 to 25, 47 to 53, 68 to 70, 73 to 75, 84 to 86 and 93 to 95 were rejected under § 103(a) over Yamamoto '662 in view of Koitabashi '140; and Claims 18 to 25, 30, 42, 47 to 53, 65, 68 to 76, 80, 81, 84 to 86, 88, 89 and 93 to 95 were rejected for obviousness-type double patenting over issued Claims 1 to 22 of U.S. Patent 6,234,618 (Yamamoto '618) in view of Yamamoto '662.

According to Claims 18, 20, 84, 85 and 86, the present invention concerns a fibrous material produced by steps which include processing with a glycol treatment. According to Claim 42, the present invention concerns a fibrous material produced by steps which include treatment with a treating agent. The glycol treatment involves contact with an ethylene oxide adduct of a glycol having a cloud point of at least 65°C, and the treating agent likewise contains a ethylene oxide adduct of a glycol having a cloud point of at least 65°C.

An example of the ethylene oxide adduct of a glycol can be found on page 15 of the specification. The addition of the ethylene oxide to the glycol results in ether linkages in the side chains with the hydroxy group.

The advantageous effects of the present invention are apparent in the specification and have been discussed in previous responses, namely, processing with a glycol treatment or treating with a treating agent reduces the leaching effects of additives which are often contained in the thermoplastic resins which form fibrous materials. These additives tend to leach from the fibrous materials in the course of ordinary use, causing deleterious effects, particularly in instances where the fibrous material is used in

connection with an ink absorbing member. The glycol treatment or the treating agent serves to emulsify or solubilize additive components which, in turn, allows much of these components to be removed from the fibrous material. Consequently, many of the undesired components are removed and never come into contact with or contaminate ink.

Those components that are not removed and remain attached to the fibrous material are still affected by the glycol treatment or the treating agent. These additive components that remain will be attached in a dissolved or emulsified state and will have minimal effect if eventually released from the fiber.

It is Applicants' continued position that the applied art, whether taken alone or in any permissible combination, fails to disclose or reasonably to suggest processing with a glycol treatment (or treatment with a treating agent), as claimed in each of the claims herein, much less the attendant benefits of such processing or treatment.

The § 102(b) rejection was made over Yamamoto '662. According to the Office Action, Applicants' arguments regarding glycol treatment are were rejected because Yamamoto '662 allegedly describes glycol treatment on page 8, lines 4 to 7. Applicants respectfully disagree with such a view of Yamamoto '662.

Yamamoto '662, page 8, lines 4 to 7, refers to anionic surfactants "selected among polyoxyethylene sorbitan fatty acid ester, polyethylene glycol aliphatic carboxylic acid ester and so forth". Applicants believe that the surfactants referred to in Yamamoto '662 differ from the glycol treatment and the treating agent used in the present invention. Yamamoto's surfactant contains ester linkages. Such ester linkages would normally not arise if Yamamoto's surfactant were an ethylene oxide adduct of a glycol, as claimed herein. Rather, ethylene oxide adducts of a glycol would ordinarily exhibit ether

linkages. As discussed above and shown on page 15 of the specification, the ethylene oxide adduct of a glycol results in ether linkages in a side chain containing the hydroxy functional group.

A surfactant of the present invention is distinct from a that of Yamamoto '612, which has ester linkages. As evidenced by the Japanese reference attached, "New Primer Handbook of Surfactants" (translation of the relevant pages attached) it is known in the art that the molecular differences would result in different properties.

The reference explains on pages 90 to 91 that "nonionic surfactants are generally classified into polyethylene glycol type nonionic surfactants and polyhydric alcohol type nonionic surfactants, the properties of which are considerably different from each other". Applicants assert that the ethylene oxide adduct of a glycol employed in the present invention falls into the "polyethylene glycol type nonionic surfactants" category, while Yamamoto '662's polyethylene glycol aliphatic carboxylic acid ester falls into the "polyhydric alcohol type nonionic surfactants" category. The expectation of different properties makes it unlikely that one of ordinary skill in the art would find compounds belonging to two different categories interchangeable.

Furthermore, while it is true that Yamamoto '662 discloses the use of nonionic surfactants and the surfactant used in the present invention is one of many nonionic surfactants, nonionic surfactants are such a broad species that it would be difficult for one of ordinary skill in the art to at once envisage the compounds used in the claimed invention. See MPEP § 2131.02. Therefore, Applicants respectfully request that the § 102(b) rejection over Yamamoto '662 be withdrawn.

In regards to the § 103(a) rejection over Ujita in view of Koitabashi, Applicants respectfully reassert their position that it is not obvious to use the glycol charged ink of Koitabashi as a “treatment” or a “treatment agent” for the absorbing material of Ujita.

The Office Action has maintained that one skilled in the art would be motivated to combine Ujita and Koitabashi with the expectation that this would be an improvement in the ink transfer properties of the ink absorbing member. This view is based on the premise that Koitabashi teaches that the surface tension of ink in a cartridge can be controlled by a surfactant like acetylene glycol ethylene oxide and that surface tension is related to the wettability between the absorbing material and the ink. However, this premise does not provide a motivation for one skilled in the art to apply acetylene glycol ethylene oxide as a treatment to an absorbing material.

Thus, at most, one skilled in the art would use the glycol charged ink of Koitabashi in an ink cartridge which contained the fibrous member of Ujita. This does not constitute the “glycol treatment” nor the use of a “treating agent” as defined by the rejected claims. Furthermore, such a combination would not achieve the advantageous effects of the invention, such as removal of undesired components from the absorbing material. Consequently, there is no motivation to combine Ujita and Koitabashi in such a fashion as to yield the present invention.

With respect to the § 103(a) rejection over Yamamoto ‘662 in view of Koitabashi, Applicants respectfully submit that there is no motivation to combine the two references to yield the present invention. Koitabashi does not describe any treatment of its absorbing material and there is therefore no basis for a combination with Yamamoto’s

treatment. In support of this rejection, the Office Action repeats the motivation of improvement in the ink transfer properties of the ink absorbing member of Yamamoto '662. As discussed above, this motivation is insufficient to cause one skilled in the art to apply acetylene glycol ethylene oxide to the absorbing member as a treatment.

In view of the foregoing, it is respectfully requested that the § 103(a) rejections be withdrawn.

In regards to the rejection for obviousness-type double patenting over Yamamoto '618, the Office Action asserts that it would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify the hydrophobicity of the fibers of Yamamoto '618 with the surfactant of Yamamoto '662. It is noted that Yamamoto '618 is the U.S. counterpart to Yamamoto '662 and, as discussed above, Yamamoto '662 does not provide the glycol treatment nor the treatment agent of the present invention.

It would not have been obvious to one skilled in the art and using Yamamoto '662's disclosure of a nonionic surfactant to derive the present invention. As discussed above, the compounds disclosed in Yamamoto belong to a different category of nonionic surfactants. Yamamoto '618 as modified by Yamamoto '662 does not provide the present invention, and withdrawal of the double patenting rejection is respectfully requested.

REQUEST FOR INTERVIEW

If the Examiner finds the above arguments unpersuasive and maintains his rejections, it is requested that the Examiner contact Applicants' undersigned attorney to schedule an interview.

Applicants' undersigned attorney may be reached in our Costa Mesa, California office at (714) 540-8700. All correspondence should continue to be directed to our below-listed address.

Respectfully submitted,



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